



## Cisco Unified Videoconferencing 3515 MCU 5.1

A flexible, high-performance system for IP videoconferencing

Cisco® Unified Communications is a comprehensive IP communications system of voice, video, data, and mobility products and applications. It enables more effective, more secure, more personal communications that directly affect both sales and profitability. It brings people together by enabling a new way of communicating—where your business moves with you, security is everywhere, and information is always available...whenever and wherever it is needed. Cisco Unified Communications is part of an integrated solution that includes network infrastructure, security, mobility, network management products, lifecycle services, flexible deployment and outsourced management options, end-user and partner financing packages, and third-party communications applications.

The Cisco Unified Videoconferencing system—an integral component of the Cisco Unified Communications System—facilitates face-to-face discussions among remote participants. The solution supports multiple protocols to ensure connectivity with a wide variety of video-enabled devices from desktop video telephony to traditional room systems and Cisco TelePresence. Cisco Unified Videoconferencing solutions are integrated into Cisco Unified Communications and rich-media conferencing solutions to deliver productivity that goes beyond traditional video conferencing by integrating video into a broad range of communication scenarios.

### Cost-Effective Videoconferencing Solution

The Cisco Unified Videoconferencing 3515 MCU is a flexible solution for any size of organization that wants to deploy high-performance, feature-rich, multilocation video conferencing over an IP infrastructure. Each system is self-contained and can support up to either 18 or 36 simultaneous video endpoints in one or more conferences. These multipoint control units (MCUs) also work with the higher-capacity Cisco Unified Videoconferencing 3545 system and are designed to be deployed at remote network sites in multiple-MCU distributed environments, facilitating optimization of WAN bandwidth use for geographically dispersed organizations.

The solution enables participants to collaborate effectively and share information in real time to help organizations eliminate the barriers of time, distance, and resources and permit people around the world to function as if they were in the same room. This flexibility combined with high performance and scalable technology provides organizations with the tools they need to simplify and speed business processes and decision making and improve productivity through face-to-face interaction. Educational institutions and organizations can conduct efficient training and education programs that extend beyond the campus environment. Doctors can consult specialists from any part of the world to provide the best care for their patients. Organizations can reduce travel and build trust and stronger relationships with remote staff and customers through more frequent face-to-face communications.

## Key Features and Benefits

The Cisco Unified Videoconferencing 3515 MCU offers important features and benefits for videoconference users—and for your organization.

### Multiprotocol Support that Enables Broad Video Interoperability

Cisco Unified Videoconferencing systems support multiple video and audio compression standards, codecs, and protocols, including H.323, Session Initiation Protocol (SIP), Skinny Call Control Protocol (SCCP), and H.320, to ensure broad connectivity with traditional and emerging video environments. This degree of support provides flexibility that enables Cisco Unified Videoconferencing solutions to interoperate with traditional room and desktop video conferencing systems, newer high-definition video solutions, and Cisco Unified Communications Manager video telephony environments. Providing a single video infrastructure solution for a broad range of endpoints and access methods improves usability for users and simplifies management, enabling effective video communications and a lower total cost of ownership.

### High-performance, Flexible Solution that Delivers an Optimized Experience for All Users

The Cisco Unified Videoconferencing 3515 MCU is designed using an encoder-per-port hardware architecture, which provides dedicated resources for every endpoint connected to a conference. This architecture allows the product to support a wide range of video and audio compression standards, codecs, continuous-presence features, and video resolutions at high performance levels and in any combination, without adversely affecting the capacity of the product.

- High-quality standard definition (SD) video conferencing—Because every port has dedicated audio and video encoders, any SD endpoint can connect to any conference, at any supported bit rate, with any supported audio or video codec, at any supported SD resolution, and with any screen layout. The Cisco Unified Videoconferencing 3515 MCU automatically implements audio and video transcoding and connection speed transrating capabilities that allow each SD endpoint to use its preferred codec and connection speed and still connect to conferences with endpoints using different codecs and connection speeds. This approach helps ensure an optimal video and audio experience for each participant without sacrificing scalability or performance. The encoder-per-port hardware architecture also significantly reduces planning, provisioning, and scheduling requirements by eliminating the need to define or limit the bit rates, video formats, and conference features that video conferencing endpoints and conference participants can use.
- High-capacity personal video conferencing—The Cisco Unified Videoconferencing 3515 MCU now has unmatched flexibility to distribute processing resources that are not being fully used by personal or desktop video conferencing endpoints that do not require high connection rates. If the available bandwidth is not fully used, the number of available ports automatically increases, providing a reduced cost per port. This new MCU service can run concurrently with the high-quality SD service and adds powerful flexibility that makes the Cisco Unified Videoconferencing 3515 MCU an even more cost-effective choice for desktop video and videotelephony deployments.

- High definition (HD) conferencing—The Cisco Unified Videoconferencing 3515 MCU 5.1 also introduces support for standards-based HD video conferencing endpoints. HD endpoints are shown in full screen, and switching between participants is determined by the active speaker. The HD switched service has the same port capacity as the transcoded SD services and can run simultaneously on the MCU with SD and high-capacity personal video services, automatically providing the optimal experience and capacity for the entire spectrum of video users and deployments.

#### **Extensive Features that Provide Meeting Control and Flexible Video Presentation**

The solution offers two modes of video display: voice-activated video selection and continuous presence. In a voice-activated conference, participants see a full screen of the person who is actively speaking. As the speaker changes from one location to the next, the video follows to show the new speaker. In a continuous-presence conference, the display shows the video of 2 to 16 participants simultaneously, with any additional meeting participants being cycled from off to on screen as they speak. In either mode, a conference moderator can manually control every aspect of the conference display through an easy-to-use Web-based interface, including determining how many participants should be shown on screen at once, which windows should be voice-activated vs. continuous presence, and many other options.

Conference management functions—The Cisco Unified Videoconferencing 3515 MCU provides extensive conference management functions so users can control all aspects of their meeting. Users and conference moderators can control the meeting from a Web-based user interface, a dual tone multifrequency (DTMF) interface from video endpoints or standard phones, or video endpoint remote controls. For example, the conference moderator can lock the conference to prevent additional or uninvited participants from attending, as well as add, mute, or disconnect participants. In multiple-image continuous-presence conferences, the administrator can specify the screen position in which the locations appear and switch between multiple- and single-image displays at the click of a mouse. Having access to these integrated controls improves meeting effectiveness, particularly in large videoconferences or educational environments.

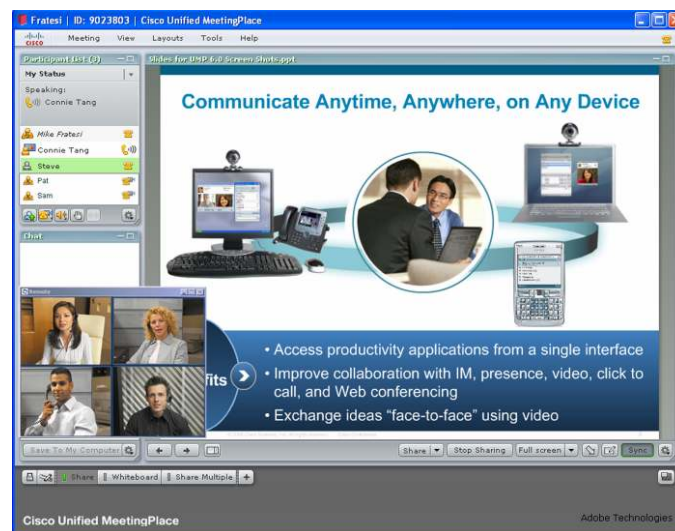
#### **Integrated Unified Communications and Rich-Media Conferencing Solution**

The Cisco Unified Videoconferencing 3515 MCU is integrated with the Cisco Unified Communications System to enable multiple video environments and usage scenarios, including impromptu conferences that can be initiated from desktop communications clients and phones; collaborative conferences that integrate voice, video, and Web conferencing; and traditional multilocation video conferencing. Users can easily transition across and between applications, such as presence, instant messaging (IM), IP telephony, unified messaging, and rich-media conferencing as interactions warrant, independent of where they are or what device they are using. These broad integration capabilities enable Cisco Unified Videoconferencing solutions to deliver advanced productivity and simplify the implementation and deployment of unified communications and rich-media conferencing solutions. Unified communications interoperability also delivers investment protection by ensuring that organizations can fully use their investment in video conferencing systems. The Cisco Unified Videoconferencing 3515 MCU enables three types of solutions, which can be deployed and used separately or together.

- Rich-media conferencing—The [Cisco Unified MeetingPlace®](#) solution—also part of the Cisco Unified Communications System—is a complete rich-media conferencing solution (Figure 1). The Cisco Unified Videoconferencing 3515 MCU, when combined with the Cisco Unified MeetingPlace Video Integration option, delivers the video conferencing capabilities

for Cisco Unified MeetingPlace conferencing. The solution integrates enterprise-class voice, video, and Web conferencing with industry-leading video setup and control capabilities to meet the needs of organizations looking for a single enterprise-class solution and user environment for all their conferencing needs. Cisco Unified MeetingPlace conferencing provides intuitive interfaces that make setting up, attending, and managing meetings easy. Meeting participants have total control over their voice, video, and Web conference from a single browser interface. This simple-to-use model eliminates traditional barriers to rich-media conferencing, leading to quick adoption and realization of productivity benefits.

**Figure 1.** Cisco Unified MeetingPlace Conferencing: Integrated Voice, Video, and Web conferencing



- **Cisco Video Telephony**—Cisco Unified Communication Manager video telephony extends video to desktop communications. Video calls are now as easy to place as telephone calls (Figure 2) and have familiar phone features such as hold, transfer, and call forward; integrated dial plans; common call detail records (CDRs); and administration capability. Cisco Video Telephony personalizes communications and extends the benefits of video communications from the conference room to the end user's desktop and dramatically simplifies the user experience. The Cisco Unified Videoconferencing 3515 MCU provides multiparty conferencing support for video telephony endpoints, including both traditional room-based systems and desktop applications and devices. The solution provides a simple user experience that makes adding users to a conference as easy as pressing the conference control on a supported video telephony application or device, such as a Cisco Unified IP phone or Cisco Unified Personal Communicator.

**Figure 2.** Cisco Video Telephony: Video Calls Are as Easy to Make as Telephone Calls

- Traditional IP videoconferencing—In addition to video telephony and rich-media conferencing environments, the Cisco Unified Videoconferencing 3515 MCU provides flexible, scalable, and high-performance multiparty video conferencing for traditional room-based video conferencing systems across a wide variety of endpoints, including H.320, H.323, SCCP, and SIP devices.

**Scalable Solution Deployed Over an Intelligent Network**

Each Cisco Unified Videoconferencing 3515 MCU is a self-contained, preconfigured high-performance appliance that provides audio and video processing for small to medium-sized conferences. The solution can be deployed with the Cisco Unified Videoconferencing 3522 and 3527 Gateway appliances, which allow ISDN H.320 endpoints to participate in the same conferences as IP-based H.323, SCCP, or SIP endpoints, providing investment protection for existing video conferencing deployments. Readily deployable at remote network sites, the Cisco Unified Videoconferencing 3515 MCUs also work with the Cisco Unified Videoconferencing 3545 systems at larger sites to provide a distributed video environment that optimizes WAN bandwidth usage for geographically dispersed organizations while preserving solution performance and quality of the user experience.

Video conferencing deployments with the Cisco Unified Videoconferencing 3515 MCU requires the presence of an H.323 gatekeeper in the video network to provide functions such as telephone-number-to-IP address resolution and zone bandwidth management for video conferencing endpoints. Based on Cisco IOS® Software, the Cisco IOS Gatekeeper product runs on a wide variety of Cisco integrated services routers. The Cisco IP-to-IP Gateway, also a Cisco IOS Software product, can enhance a video conferencing deployment by providing session-border-control services, quality-of-service (QoS) functions, and enhanced security with firewall traversal capabilities, all of which allow customers to extend their video conferencing capabilities beyond their network to partner and customer networks, or even to video endpoints using the public Internet.

**Advanced Solution Management—Cisco Unified Videoconferencing Manager**

Cisco Unified Videoconferencing systems can be managed as a standalone device or with the Cisco Unified Videoconferencing Manager, which helps organizations of all sizes improve communications by using their video conferencing resources more effectively. The Cisco Unified Videoconferencing Manager enables any user to easily schedule video conferences from a Web

browser or a Microsoft Outlook calendar where they can view, check availability, and reserve video resources, such as Cisco Unified Videoconferencing MCUs, and gateways. The application minimizes complexity and ensures optimal resource usage by automatically communicating with multiple MCU and gateway devices across multiple geographical locations to reserve the appropriate resources at the most efficient locations. Additional features such as custom meeting templates that identify bandwidth, layout, and terminal setting preferences; Lightweight Directory Access Protocol (LDAP) integration; e-mail notifications; and automatic dialout to video terminals help make the scheduling and attending experience flexible and efficient, thereby reducing the need for help desk support and the total cost of ownership.

Cisco Unified Videoconferencing Manager reduces the hurdles to deploying video conferencing to large or geographically dispersed environments. Video conferencing devices are registered with Cisco Unified Videoconferencing Manager, which then combines the device information, network topology, and bandwidth information to help simplify user and administrator interactions and make intelligent resource allocation decisions. Cisco Unified Videoconferencing Manager also helps improve meeting effectiveness by providing powerful in-meeting controls, such as the ability to invite new users, mute and unmute participants, and change the meeting video layout for any video conference on the network from a single, centralized Web user interface.

## Product Information

Table 1 describes the features of the Cisco Unified Videoconferencing 3515 MCU, and Table 2 lists the product specifications.

**Table 1.** Cisco Unified Videoconferencing 3515 MCU Features and Benefits

Feature	Description	
	Cisco Unified Videoconferencing 3515 MCU (12 port)	Cisco Unified Videoconferencing 3515 MCU (24 port)
<b>Part number</b>	IPVC-3515-MCU12	IPVC-3515-MCU24
<b>SD video capacity</b>	Provides 12 fully transcoded SD video ports: <ul style="list-style-type: none"> <li>• All codecs—H.261, H.263, and H.264</li> <li>• All protocols—H.323, SCCP, and SIP (H.320 with gateways)</li> <li>• All screen layouts, continuous presence, and text overlay—Up to 16 participants on the same screen and more than 26 layout options</li> <li>• Unlimited number of conferences</li> <li>• Rate matching, transcoding, and transrating as needed on all ports</li> <li>• Up to 2-Mbps connections per port</li> </ul>	Provides 24 fully transcoded video ports: <ul style="list-style-type: none"> <li>• All codecs—H.261, H.263, and H.264</li> <li>• All protocols—H.323, SCCP, and SIP (H.320 with gateways)</li> <li>• All screen layouts, continuous presence, and text overlay—Up to 16 participants on the same screen and more than 26 layout options</li> <li>• Unlimited number of conferences</li> <li>• Rate matching, transcoding, and transrating as needed on all ports</li> <li>• Up to 2-Mbps connections per port</li> </ul>
<b>HD video capacity</b>  <b>New in Cisco Unified Videoconferencing 5.1</b>	Provides 12 ports of switched HD video: <ul style="list-style-type: none"> <li>• Supports standards-based HD resolution video endpoints</li> <li>• Full-screen active speaker video switching for HD conferences</li> <li>• Up to 2-Mbps connections per port</li> </ul>	Provides 24 ports of switched HD video: <ul style="list-style-type: none"> <li>• Supports standards-based HD resolution video endpoints</li> <li>• Full-screen active speaker video switching for HD conferences</li> <li>• Up to 2-Mbps connections per port</li> </ul>



Data Sheet

<b>Personal video capacity</b>  <b>New in Cisco Unified Videoconferencing 5.1</b>	Endpoints connecting at 384 kbps or less can use this new MCU service, which increases capacity by 50 percent for better MCU resource usage, as well as more scalable and cost-effective desktop, telephony, and mobile video conferencing deployments. <ul style="list-style-type: none"> <li>Provides 18 ports for personal and desktop video endpoints</li> <li>Fully processed video—all codecs, connection protocols, and continuous presence layouts supported</li> <li>H.263 @ 30 fps or H.264 @ 15 fps supported</li> <li>No encryption</li> </ul>	Endpoints connecting at 384 kbps or less can use this new MCU service, which increases capacity by 50 percent for better MCU resource usage, as well as more scalable and cost-effective desktop, telephony, and mobile video conferencing deployments. <ul style="list-style-type: none"> <li>Provides 36 ports for personal and desktop video endpoints</li> <li>Fully processed video—all codecs, connection protocols and continuous presence layouts supported</li> <li>H.263 @ 30 fps or H.264 @ 15 fps supported</li> <li>No encryption</li> </ul>
<b>Audio capacity</b>	Provides 24 fully transcoded audio ports: <ul style="list-style-type: none"> <li>All codecs</li> <li>All protocols <ul style="list-style-type: none"> <li>Full support for audio-only endpoints, including Cisco Unified IP phones</li> </ul> </li> </ul>	Provides 48 fully transcoded audio ports: <ul style="list-style-type: none"> <li>All codecs</li> <li>All protocols <ul style="list-style-type: none"> <li>Full support for audio-only endpoints, including Cisco Unified IP phones</li> </ul> </li> </ul>
<b>Scalability</b>	<ul style="list-style-type: none"> <li>Can create larger conferences by cascading multiple Cisco Unified Videoconferencing 3515 MCU and 3545 MCU modules together</li> <li>Can centralize cascaded conferences in the data center or distribute conferences geographically to more efficiently use WAN bandwidth</li> </ul> <p>For desktop, telephony, or mobile video conferencing deployments that do not require more than 384-kbps connections, Cisco Unified Videoconferencing 3515 MCU port capacity is increased by 50 percent</p>	
<b>Audio transcoding</b>	<ul style="list-style-type: none"> <li>Allows conference participants to use G.711, G.722, G.722.1, G.723.1, G.728, or G.729A audio encoding</li> </ul> <p>Matches the audio capabilities of each calling endpoint before mixing the audio from all participants</p>	
<b>Conference management</b>	<ul style="list-style-type: none"> <li>Allows a conference moderator to perform a variety of conference monitoring and management functions through an easy-to-use Web interface</li> <li>Allows real-time conference management and monitoring, allowing moderators to: <ul style="list-style-type: none"> <li>View conference list and number of participants</li> <li>View conference type and participant information, including name, number, IP address, video and audio codecs in use, and time joined the conference</li> <li>Create a new conference and assign a conference password</li> <li>Terminate a video conference</li> </ul> </li> <li>Offers powerful conference control for management of active conferences, allowing moderators to: <ul style="list-style-type: none"> <li>Add or drop participants in a conference</li> <li>Lock the video on a location to be viewed by all participants in a conference</li> <li>Lock the video and specify image position during a continuous-presence conference</li> <li>Switch between voice-activated and continuous-presence views during a conference</li> <li>Mute audio from a selected participant</li> <li>Terminate a video conference</li> </ul> </li> </ul>	
<b>Unscheduled or scheduled conferences</b>	<ul style="list-style-type: none"> <li>Allows users to easily initiate unscheduled conferences</li> </ul> <p>Allows conferences to be scheduled through the Cisco Unified MeetingPlace solution or compatible third-party scheduling applications</p>	
<b>Security</b>	<ul style="list-style-type: none"> <li>Provides password protection for conferences to help ensure privacy for participants</li> <li>Password protects administrative functions</li> </ul> <p>Uses H.235 Advanced Encryption Standard (AES) and Data Encryption Standard (DES) encryption with up to 128-bit keys</p>	
<b>Video display modes</b>	<ul style="list-style-type: none"> <li>Allows continuous-presence conferences displaying up to 16 participants at one time</li> <li>Offers more than 26 screen layout options</li> <li>Provides autolayout selection depending on the number of participants</li> <li>Allows administrative control of layouts and conference views</li> <li>Using the Web interface, gives the conference moderator full control of participant location in the screen layout</li> </ul> <p>Provides a self-see window in the screen layout that can be turned off, providing a unique and optimized view for each participant (without the participant in the layout)</p>	
<b>Audio announcements on entry and exit</b>	<ul style="list-style-type: none"> <li>Plays entry and exit sound when conference participants join or leave a conference</li> </ul> <p>Allows recording and uploading of custom messages using the supplied recording utility software</p>	

Data Sheet

<b>Data support</b>	<ul style="list-style-type: none"> <li>Provides support for H.239 and Tandberg DuoVideo for presentation sharing</li> </ul> Integrates with the Cisco Unified MeetingPlace solution for rich-media conferencing and Web collaboration
<b>Diagnostics</b>	<ul style="list-style-type: none"> <li>Performs power-on self-test for CPU, interfaces, and memory when the unit is turned on</li> <li>Provides front-panel error indicators</li> </ul> Provides Telnet and serial port monitoring capabilities

**Table 2.** Cisco Unified Videoconferencing 3515 MCU Specifications

Feature	Specification
<b>LAN interface</b>	One 10/100 Ethernet port, IEEE 802.3, 8-pin RJ-45
<b>Serial port</b>	EIA-232, 9-pin D-type
<b>Video protocols</b>	H.323, SIP, and SCCP
<b>Video coding</b>	H.261, H.263, and H.264
<b>Video resolutions</b>	Primary participant video resolutions: Quarter Common Intermediate Format (QCIF), Common Intermediate Format (CIF), 4CIF, and 1280 x 720 HD H.239/DuoVideo content video resolutions: Video Graphics Array (VGA), Super Video Graphics Array (SVGA), and Extended Graphics Array (XGA)
<b>Audio coding</b>	G.711, G.722, G.722.1, G.723.1, G.728, and G.729A
<b>Other protocols</b>	H.239, H.243, and H.235 (AES and DES)
<b>Data collaboration</b>	<ul style="list-style-type: none"> <li>H.239 and Tandberg DuoVideo for presentation sharing</li> <li>Integration with the Cisco Unified MeetingPlace solution for audio, video, and Web rich-media conferencing and collaboration</li> </ul>
<b>Gatekeeper support</b>	Cisco IOS Gatekeeper or equivalent
<b>Dimensions</b>	1.75 x 17.25 x 10.0 in. (4.445 x 43.815 x 25.4 cm)
<b>Weight</b>	15.43 lb (7 kg)
<b>Power</b>	<ul style="list-style-type: none"> <li>IPVC-3515-MCU12: 67W maximum</li> <li>IPVC-3515-MCU24: 88W maximum</li> <li>100–240 VAC autosense, 50–60 Hz</li> <li>U.S. power cable included</li> <li>Other power cables available</li> </ul>
<b>Environment</b>	<ul style="list-style-type: none"> <li>Operating temperature: 32 to 104°F (0 to 40°C)</li> <li>Storage temperature: 13 to 158°F (25 to 70°C)</li> <li>Humidity: 5 to 90% noncondensing</li> </ul>



Data Sheet

<b>Agency compliance</b>	<ul style="list-style-type: none"> <li>• Safety: <ul style="list-style-type: none"> <li>◦ UL 60950: 2000</li> <li>◦ CSA CS22.2 No. 60950-00</li> <li>◦ GS Approval (EN 60950: 2000)</li> <li>◦ EN 60950: 2000</li> <li>◦ ACA: TS002-1997</li> <li>◦ AS/NZS 3260: 1993, A4: 1997</li> <li>◦ AS/NZS 60950: 2000</li> <li>◦ IEC 60950: 1999 (CB test report)</li> </ul> </li> <li>• EMI: <ul style="list-style-type: none"> <li>◦ FCC Part 15 Subpart B, Class A,</li> <li>◦ EN 55022: 1998, Class A</li> <li>◦ ICES 003</li> <li>◦ EN 55024: 1998</li> <li>◦ EN 61000-3-2: 1995, Amendment A14: 2000</li> <li>◦ EN 61000-3-3</li> <li>◦ EN 61000-4-2: 1995</li> <li>◦ EN 61000-4-3: 1995</li> <li>◦ EN 61000-4-4: 1995</li> <li>◦ EN 61000-4-5: 1995</li> <li>◦ EN 61000-4-6: 1996</li> <li>◦ EN 61000-4-8: 1993</li> <li>◦ EN 61000-4-11: 1994</li> <li>◦ AS/NZS 3548: 1995 Class A, Amendment 1: 1997, Amendment 2: 1997</li> <li>◦ VCCI: 1999</li> </ul> </li> </ul>
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## Cisco Unified Communications Services and Support

Using the Cisco Lifecycle Services approach, Cisco and its partners offer a broad portfolio of end-to-end services to support the Cisco Unified Communications system. These services are based on proven methodologies for deploying, operating, and optimizing IP communications solutions. Initial planning and design services, for example, can help you meet aggressive deployment schedules and minimize network disruption during implementation. Operate services reduce the risk of communications downtime with expert technical support, and optimize services enhance solution performance for operational excellence. Cisco and its partners offer a system-level service and support approach that can help you create and maintain a resilient, converged network that meets your business needs.



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